

KARTIK, I.

Data on the recurrence and the progression of Dupuytren's contracture. Acta chir. plast. 5 no.4:253-259 '63.

1. Department of Plastic Surgery, Bakats-ter Hospital, Budapest (Hungary).

(DUPUYTREN'S CONTRACTURE)
(SKIN TRANSPLANTATION)

KARTIK, Ilona, dr.

Therapy of Dupuytren's contracture. Orv. hetil. 97 no.13:
345-348 25 March 56.

1. A Fovarosí Xun-utcai Korház Plasztikai Sebészeti Osztályának
(korhási igazgató főorvos: Erczy, Miklós dr.) Közleménye.
(DUPUYTREN'S CONTRACTURE, surg.
aponeurectomy, indic., technic & results. (Hun))

KARTIK, Ilona, Dr.

Camptodactylia. Orv. hetil. 99 no.47:1652-1655 23 Nov 58.

L. A Fovarosí Kun-utcai Korház (mh. igazgató: Biro Sándor dr.) Plasztikai Sebészeti Osztályának (főorvos: Zoltán János dr.kandidátus) közleménye.

(FINGERS, dis.
camptodactylia (Hun))

19

B. KARTILOVA, L.

The Mechanism of Cold-Flame Combustion. (In Russian.) V. Kondrat'ev, L. Kartilova, and E. Kondrat'ev. *Zhurnal Fizicheskoi Khimii* (Journal of Physical Chemistry), v. 22, May 1948, p. 561-564. Investigates the above by the thermoelectric method. On the basis of tabulated and charted data, it is indicated that the H atom, even if present in the zone of the cold flame, does not have as great an importance as in the mechanism of hot-flame combustion.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND GROUPS

PROCESSING AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON VARIABLE MOLE

1ST AND 2ND GROUPS

PROCESSING AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON VARIABLE MOLE

36765
S/081/62/000/001/059/067
B162/B101

11.9400
AUTHORS:

Vaynshtok, V. V., Kartinin, B. N., Karakash, S. I., Avchina, S. A.

TITLE:

Investigation of lithium greases thickened with soaps of natural and synthetic acids

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 1, 1962, 448, abstract 1M171 (Tr. Mosk. in-t neftekhim. i gaz. prom-sti, no. 32, 1960, 11 - 26)

TEXT: It is established that the cooling methods used in the production of Li greases do not make it possible to control the process of crystallization of the thickener and lead to the production of low-quality products with a polydisperse structure. Greases thickened with technical stearate of Li, obtained by isothermic crystallization at 130°C possess optimum properties and are characterized by a structure formed of elementary particles of uniform shape and size. High-quality greases can be produced with Li-soaps of technical 12-hydroxystearic acid, and also with Li-soaps of synthetic C₁₀ - C₁₆ and C₁₀ - C₂₁ carboxylic acids, the

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Card 2/2

32337
S/081/61/000/024/073/086
B151/B101

11.9400 also 1583
AUTHORS: Vaynshtok, V. V., Kartinin, B. N., Karakash, S. I.

TITLE: The effect of additions of lead soaps on the structure and properties of lithium greases

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 471 - 472, abstract 24M97 (Tr. Mosk. in-t neftekhim. i gaz. prom-sti, no. 32, 1960, 27 - 40)

TEXT: It has been found that the optimum temperature of crystallization of Li soap in the preparation of greases is 110°C . However, at this temperature it is not possible to prepare greases containing lead soaps, the crystallization of which proceeds below room temperatures. In these conditions it is possible to obtain lithium-lead greases. The addition of Pb stearate to greases thickened with Li stearate lowers their drop-fall temperatures. The colloidal stability of the greases firstly drops (on the introduction of up to 20% Pb stearate, based on the soap thickener) and then improves again. The limiting shear stress drops at

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32337
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B151/B101

The effect of additions of...

first (up to 30% Pb stearate), then rises (40% Pb stearate) and then drops again (50% Pb stearate). The viscosity of Li greases shows little effect from the introduction of Pb stearate. The mechanical stability of the greases, evaluated by the change in residual limiting shear stress after their breakdown in a mixer using a penetrometer, drops with increasing concentration of lead soap. The preparation of Li greases containing more than 50% Pb stearate was not possible, although greases thickened with Pb stearate only were obtained. Examination with an electron microscope showed that the structure of the Li soap changes on the addition of Pb stearate to the grease. Similarly, the dimensions and form of the crystallites of the lead soap depend on the relative proportion of Li stearate present in the grease. [Abstracter's note: Complete translation.] ✓

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32336
S/081/61/000/024/072/086
B151/B101

11.9400 also 1583

AUTHORS: Vaynshtok, V. V., Kartinin, B. N., Avchina, S. A., Levento, R. A.

TITLE: Combination of lithium and aluminum soaps in consistent greases

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 471, abstract 24M96 (Tr. Mosk. in-t neftekhim. i gaz. prom-sti, no. 32, 1960, 41 - 52)

TEXT: The optimum temperatures of isothermal crystallization of soft greases containing mono- and distearates of Al are 120 and 80°C, respectively. In these conditions the greases have their highest viscosity, limiting shear stress and drop-fall temperature, etc. For the same weight concentrations a greater thickening effect is exhibited by the distearate while for equal molecular concentrations by the monostearate of Al. The temperature dependence of the volume-mechanical properties of the greases thickened with Al distearate is much more pronounced than with greases thickened with Al monostearate. For studying

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Combination of lithium and...

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B151/B101

the effect of additions of Al soap on the properties of Li greases, Al monostearate was chosen, giving the best characteristics of the greases. Besides this, the optimum temperatures of crystallization of Li stearate (110°C) and Al monostearate (120°C) are close to each other. The introduction of Al soaps into Li greases lowers their viscosity, limiting shear stress, colloidal stability, and drop-fall temperature. When the ratio of Al monostearate to Li soap was increased up to 3:1 or that of Al distearate to Li stearate up to 1:1, it was not possible to prepare the greases. The joint crystallization of Al and Li soaps, as shown by examination with an electron microscope, is considerably hindered, and in the case of low concentrations of Al soap (up to 50% of monostearate and 25% of Al distearate) there occurs a considerable reduction in the dispersion of the Li stearate crystallites. [Abstracter's note: Complete translation.]

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KARTININ, B.N.

15-6600

11.9700

31565
8/081/61/000/022/061/076
3101/B147

AUTHORS: Vaynshtok, V. V., Bondarevskiy, G. D., Gekker, I. S.,
Kraskovskaya, M. I., Kartinin, B. N.

TITLE: Multifunctional additives to lubricants based on natural and
synthetic ether acids

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 396 - 397,
abstract 22M121 (Tr. Mosk. in-t. neftekhim. i gaz. prom-sti,
no. 32, 1960, 53 - 67)

TEXT: Investigations of multifunctional additives showed that ramified
structures were characteristic of synthetic ether acids (mixture of esters
and compounds containing a lactone or lactide group besides free carboxyl
or hydroxyl groups) formed during oxidation of ceresin wax (MHW-7 (KNI-7)
additive) or petrolatum (MHW-5 (KNI-5) additive). They contain several
active groups (COOH, OH, COOR, where R = hydrocarbon radical) in the
molecule. Thus, they are capable of increasing the antiwear, adhesive,
and anticorrosive properties of oils and hydrocarbon lubricants, and of
lowering their solidification point. Similar properties were found for

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B101/B147

Multifunctional additives to...

natural ether acids contained in the residue of wool grease after extraction of lanolin from degreas by compressed hydrocarbon gases. Such residues look like oxidized petrolatum, and are primarily a mixture of esters and inter-esters, as well as free fatty acids, pigment, etc. The wool grease residue was designated MMH-10 (MNI-10) additive. The authors try to explain the multifunctional effect of ether acids. ✓
Complete translation. [Abstracter's note:]

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32310
S/081/61/000/024/076/086
B151/B101

11.9400 *also* 1583

AUTHORS: Vaynshtok, V. V., Kartinin, B. N.

TITLE: Thixotropic properties of consistent greases

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 472, abstract
24M100 (Tr. Mosk. in-t neftekhim. i gaz. prom-sti, no. 32,
1960, 116-129)

TEXT: A study of the mechanical stability of soft greases was carried out by breaking them down in a mixer, using a penetrometer with a mechanical drive, and by measurement of the residual shear stress (θ_{nr}), both

straight after breakdown as well as after a prolonged resting period (up to 2,000 hours). It was shown that, in a number of cases, what was measured was the power spent in breaking down the greases and the liberation of heat during the grease mixing process. For characterizing the breakdown of the structure, electron microscope technique was used. It has been shown that the breakdown of the soap-thickened fats increases with the degree of deformation. With synthetic greases the opposite

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32338

S/081/61/000/024/074/086
B151/B101

11.9400 also 1583

AUTHORS: Avchina, S. A., Karakash, S. I., Kartinin, B. N.

TITLE: A method for evaluating the limiting shear stress of consistent grease with an MNI-2 (MNI-2) plastometer

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 472, abstract 24M98 (Tr. Mosk. in-t neftekhim. i gaz. prom-sti, no. 32, 1960, 141 -151)

TEXT: The operating unit of this apparatus for determining the limit of solidity (limiting shear stress), τ_{nr} , of soft greases consists of two parallel immovable plates, between which there is located a third plate, joined to a balance beam. The grease under test is smeared between the plates, the surface of which is covered with grooves to prevent slippage at the walls. Onto the second balance beam is fixed a cup, into which water is poured at a fixed rate. As the water gradually fills the cup, the load on the plate increases and the plate moves in the grease. The construction of the apparatus allows one to find beforehand the amount

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A method for evaluating the...

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B151/B101

of displacement of the plate at which the contacts of a relay are closed and the filling of the cup with water ceases. The weight of the cup with the water at this moment corresponds to the load on the plate at which a given displacement of the plate in the grease takes place. By relating the load to the area of contact between the plate and the grease, τ_{nr} of the grease can be calculated. The magnitude of the path of displacement of the plate is chosen by 30% - 40% higher than the limiting value of the elastic deformations (found by preliminary experiments). For Li and Ca greases this value is usually 0.1 - 0.12 mm, and for hydrocarbon greases 0.05 - 0.06 mm. The reproducibility of parallel determinations for the measurement of τ_{nr} is $\pm 10 - 18\%$ of the mean. [Abstracter's note: Complete translation.]

Card 2/2

CHERNOZHUKOV, N.I.; VAYNSHTOK, V.V.; KARTININ, B.N.

Submicrostructure of solid hydrocarbons in a hydrocarbon medium.
Izv. vys. ucheb. zav.; neft' i gaz 4 no.8:83-86 '61.

(MIRA 14:12)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M. Gubkina.

(Hydrocarbons--Analysis)

CHERNOZHUKOV, N.I.; VAINSHTEK, V.V.; KARTININ, B.N.

Crystal submicrostructure of solid hydrocarbon mixtures
in a hydrocarbon medium. Izv. vys. ucheb. zav.; nef't' i
gaz 5 no.11:53-57 '62. (MIRA 17:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika Gubkina.

41921

S/065/62/000/011/004/006

E075/E436

11.9400

AUTHORS: Sinitsyn, V.V., Kartinin, B.N.

TITLE: Electron microscope investigation of the structure of soda greases based on the soaps of synthetic fatty acids

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.11, 1962, 62-66

TEXT: The authors investigated for the first time the structure of greases containing sodium soaps of synthetic fatty acids as thickeners. The acids were distilled into several fractions (C₁₁ to C₂₂), the soaps of which were studied separately. It was established that the structure of the greases thickened with soaps of the acid fractions up to C₂₀ essentially do not differ from the greases thickened with sodium soaps of the corresponding natural fatty acids. The presence of admixtures (oxidation by-products) increases the dispersion of the thickener particles. Some of the particles could not be resolved by the electron-microscope used. Increasing the average molecular weight of the acid fractions leads to higher dispersion, viscosity, hardness and mechanical stability

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Electron microscope ...

S/065/62/000/011/004/006
E075/E436

of the greases. It was shown that in greases based on the end fractions of the acids (C₁₈ - C₂₂) and the residual acids the thickener is highly dispersed. Such greases have poor thermal stability and gel at 100 to 120°C. The same applies to soaps of acids "C₁₇ - C₂₀" produced industrially. There are 3 figures.

X

Card 2/2

33540

S/069/62/024/001/002/003

B119/B101

1583

11.9400

AUTHORS: Sinitsyn, V. V., Alejeva, Ye. V., Kartinin, B. N. (Moscow)

TITLE: Effect of free alkalis and acids on structure and properties of plastic greases thickened with Na soaps

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 1, 1962, 75 - 79

TEXT: Investigations were conducted on four lubricating greases whose alkalinity (up to 0.16% NaOH) or acidity was varied (with stearic acid up to an acid number of 1.2 mg KOH/g of grease). Production of the lubricating greases: Soap produced from stearic acid according to ГОСТ 2074-51 (GOST 2074-51) and NaOH was suspended at 10% in low-viscosity MK-8 (MK-8) oil according to ГОСТ 6457-53 (GOST 6457-53), heated to 200°C, and cooled down rapidly (grease 1) or slowly during 4 hrs (grease 2). Greases 3 and 4 were produced in the same manner with spindle oil - 3 according to ГОСТ 1707-51 (GOST 1707-51). Alkali, or stearic acid, was admixed to the soap. Investigations: Electron microscopic studies on an ЭМ-3 (EM-3) apparatus; shearing strength determination on a К-2 (K-2) plastometer according to ГОСТ 7143-54

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S/069/62/024/001/002/003

B119/B101

Effect of free alkalis and acids ...

(GOST 7143-54); colloidal stability determination on a K(A(KSA) apparatus according to ГОСТ 7412-54 (GOST 7412-54) based on the quantity of oil squeezed out of the grease; acidity or alkalinity determination by titration of the alcohol-water extract from the petroleum ether-grease solution according to ГОСТ 6707-57 (GOST 6707-57). Results: The size of Na stearate particles dispersed in oils strongly decreases with decreasing acidity and increasing alkalinity of the system; the dispersion degree increases and, with it, the shearing strength (1 g/cm^2 , with acid number 1.2 mg KOH ; 3 g/cm^2 , neutral; 12 g/cm^2 , with $0.16\% \text{ NaOH}$), as well as the colloidal stability (28.1% of oil is squeezed out of grease 2 with acid number 1.2 mg KOH ; 13.3% of oil, out of the same grease with $0.03\% \text{ NaOH}$; 12.4% , from grease 1 with $0.07\% \text{ NaOH}$; 26.0% , with neutral reaction). Differences in the viscosity of the initial oil, and in the cooling rates during the production, show much lower effects. Certain rules hold for all lubricating greases thickened with soaps (Li soaps). These results show that the tolerance of the NaOH content in Na greases (e.g., Konstalin, HK -50 (NK-50)), fixed at $0 - 0.2\%$ by the standard specifications, is too large. There are 3 figures, 1 table and 6 references.

Card 2/3

VAYNSHTOK, V.V.; KARTININ, B.N.; KARAKASH, S.I.

Lead soaps as modifiers of the structure of lithium oils. Trudy
MINKHIGP no.37:185-199 '62.

Grease on a base of lead and aluminum soaps. Ibid.:200-214
(MIRA 17:3)

S/152/63/000/003/002/005
B117/B186

AUTHORS: Fauzi, M. A., Kartinin, B. N., Chernozhukov, N. I.

TITLE: Effect of deparaffination conditions on the crystallization character of solid hydrocarbons of residual oil

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 3, 1963, 59-64

TEXT: The conditions of deparaffination were studied for the residual refined product ($d_4^{20} = 0.8865$, $v_{100^\circ\text{C}} = 14.91 \text{ cm}^3$ (c. c. ?), solidifying point $+51^\circ\text{C}$, coking capacity 0.3%) of Muymazy petroleum; solvent: toluene mixtures with 20-60% acetone, or 40-80% MEK (MEK); weight ratio oil : solvent 1:3, 1:4, 1:5, heating up to 60°C ; filtration temperature -25°C ; cooling rate $40-200^\circ\text{C/hr}$. Results: with increasing ketone concentration, the yield of deparaffined oil was reduced, the filtration accelerated, and the solidifying point of the oil lowered. Toluene mixtures with 40% acetone or 60% MEK were found to be optimum solvents. Electron-microscopic pictures (made for the first time for crystals of Card 1/3

Effect of deparaffination conditions on ... S/152/63/000/003/002/005
B117/B186

hexagonal structure) showed that an increase in ketone concentration led to the formation of larger, well structured crystals of solid hydrocarbons. This resulted in a higher permeability of the precipitate, which accelerated the filtration and made it easier to separate the liquid from the solid phase. An increase in the cooling rate (from 40 to 90°C/hr) led to the formation of smaller crystals, which unfavorably affected the filtration and the yield of deparaffined oil. A further increase of the cooling rate (up to 200°C/hr) had no effect on the size of crystals.

Therefore the mean cooling rate should not exceed 60°C/hr; a rate of about 40°C/hr is recommended for the beginning of crystallization, followed by a faster cooling at the final stage. Repeated dilution of the raw material favorably affects the microstructure of solid hydrocarbons; less viscous liquids produce larger, well shaped crystals effecting an accelerated filtration and higher yields of the deparaffined oil. The temperature gradient is impaired by higher solubility of solid hydrocarbons with increasing solvent content. Addition of the solvent in portions is not expedient as it makes the oil more consistent during the cooling, thus retarding the crystallization process. There are 12 figures and 4 tables.

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Effect of deparaffination conditions on ... S/152/63/000/003/002/005
B117/B186

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti im. akad. I. M. Gubkina
(Moscow Institute of Petrochemical and Gas Industry imeni
Academician I. M. Gubkin)

SUBMITTED: June 23, 1962

Card 3/3

FAUZI, Mokhamed; KARTININ, B.N.; CHERNOZHUKOV, N.I.

Effect of the depth of phenol purification of residual oil
on the characteristics of dewaxing. Izv. vys. ucheb. zav.;
neft' i gaz 6 no.8:61-64 '63. (MIRA 17:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promysh-
lennosti imeni akademika I.M. Gubkina.

SINITSYN, V.V.; MAN'KOVSKAYA, N.K.; ALEYEVA, Ye.V.; KARTININ, B.N.

Effect of the structure of synthetic carboxylic acids on the
structure and properties of plastic sodium greases. Neftekhimiia
3 no.1:128-134 Ja-F '63. (MIRA 16:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti imeni I.M. Gubkina.
(Lubrication and lubricants)
(Acids, Organic)

FAUZI, Mokhamed; KARTININ, B.N.; CHERNOZHUKOV, N.I.

Effect of certain depressants on the nature of the crystallization of solid hydrocarbons in the dewaxing of residual raffinates. Izv.vys.ucheb.zav.; neft' i gaz 6 no. 12:61-63 '63. (MIRA 17:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika I.M.Gubkina.

SINITSYN, V.V. (Moskva); KARTININ, B.N. (Moskva)

Electron microscope study of structural changes in plastic greases
during oxidation. Koll.zhur. 25 no.6:671-673 N-D '63. (MIRA 17:1)

VAYNSHTOK, V.V.; KARTININ, B.N.; GOLITSKY, S.S.

Structure of lubricants in mixed soaps. Trudy MINKHIG no.44:
242-250 '63. (MIRA 18:5)

L 2106-65 EWT(m)/EPF(c)/K/EPR/T/EWP(q)/EWP(b) Pr-4/PS-4 AS(mp)-2/AFWL/
 SSD/ESD(gs)/ESD(c) WW/DJ/WH
 ACCESSION NR: AP4042329 S/0065/64/000/007/0059/0065

AUTHOR: Fuks, I. G.; Vaynshtok, V. V.; Chernozhukov, N. I.; Kartinin, B. N. 35

TITLE: Fillers as components of thickened lubricants. 23

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 7, 1964, 59-65

TOPIC TAGS: lubricant, lubricant filler, thickened lubricant, lithium lubricant, hermetic property, filler mechanism, yield value, particle size, inert filler, active filler, chemically reactive filler, amorphous lubricant, crystalline lubricant, fibrous lubricant structure, colloidal stability, molecular structure

ABSTRACT: The effect of fillers on the structure and properties of thickened lithium lubricants was investigated in order to obtain data on the mechanism of the action of the fillers and to study the possibility of increasing the hermeticity of the lubricants. Castor oil with 20 weight % lithium ricinoleate, and 5, 10, 15 and 30 wt.% of mica, graphite, chemically pure TiO_2 and oxides of lead, magnesium, zinc, iron and aluminum was used for the investigation. The fillers were added to the lubricant while it was held at 205-210C for 15 minutes. Hermeticity was determined by the maximum pressure that the lubricant could withstand and

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L 2106-65

ACCESSION NR: AP4042329

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by the number of opened-closed stopcock cycles at 25-200 atmospheres before the seal was broken. It was concluded that the yield value obtained could be used as a basic laboratory index of the operating properties of the thickened lubricants. The nature of the filler and its particle size and concentration affect the yield value. The inert filler, graphite, did not change the molecular structure of the soap but increased the yield value approximately proportionally to its concentration. The particle size of the graphite changed the yield value only slightly. The active fillers TiO_2 , Al_2O_3 , Fe_2O_3 and mica did not affect the strength of the soap but raised the yield point much less than graphite. The effect of the particle size of this type of fillers on the yield value was significant. It was found that the finer particle material (35-50 micron) increasing the yield values much more than the larger particle filler (100-120 micron). The colloidal stability of the lubricant with mica was higher than with graphite. The chemically reactive fillers ZnO , MgO and PbO significantly lowered the yield value even at 5-10% concentrations, lowered the drop point 35-40 degrees, affected the colloidal stability and changed the structure of the lubricant from crystalline to amorphous (MgO and PbO) or fibrous (ZnO). Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: MINKh i GP

Cord 2/3

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ACCESSION NR: AP4042329

SUBMITTED: 00

ENCL: 00

SUB CODE: FP

NO REF SOV: 004

OTHER: 000

Card 3/3

ACCESSION NR: AP4037174

S/0069/64/020/020/0295

AUTHOR: Vaynshtok, V. V.; Kartinin, B. N.; Gol'der, G. A.

TITLE: The structure of soaps modified by additions of lead and aluminum stearate

SOURCE: Kolloidnyy zhurnal, v. 26, no. 3, 1964, 290-295, and insert facing p. 290

TOPIC TAGS: soap oil dispersion structure, soap electronmicroscopy, soap x ray, lithium stearate, lead stearate, aluminum stearate, eutectic mixture, lead stearate crystal, crystal, crystal aggregate, aluminum lithium stearate crystal, jointly dispersed particle

ABSTRACT: The authors studied the crystallization of lithium stearate added with other stearates, widely used in the manufacture of lubricating greases (soap-oil dispersions), and conducted electronmicroscopic and x-ray studies of individual soaps, their melts and the soap-oil dispersions prepared on their basis. Experimental specimens were prepared by suspending the soap powder or grease in petroleum ether. The results are photographed, tabulated and figured. While the powdered soaps differed little in their aspect, those of the greases had specific structures depending upon the soap cation, crystallization conditions and

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ACCESSION NR: AP4037174

thickener composition. The lead-stearate based greases showed aggregates of the lead stearate lamellae with a low degree of anisodiametricity, due to poor solubility and thickening ability of such soaps. Aluminum and lithium stearate together formed distinctly shaped combined crystals (to 25% mol.% of aluminum soap). Increase of aluminum soap concentration caused a decrease of colloidal stability and rheologic indicators. No combined crystals were formed by lead and aluminum. X-ray studies of these stearates, their melts and the binary grease specimens gave sharp diffraction, with the exception of aluminum soaps. Data on interplanar distances and line intensity are presented. The lines of the greases were less pronounced than those of the starter soaps. The modifying effect of lead and aluminum stearate on the structure formed in lithium stearate-based grease led to the formation of joint dispersed particles at a 10-30% mol.% addition, and the destruction of the structure at 30-50% mol.%. These dispersed particles are eutectic mixtures. Lead and aluminum stearates applied to greases in combination with dispersed particles did not form structures and prevented ordered structure if either was contained in the thickener in more than 10-15 mol.%. Under conditions of crystallization at room temperature stable greases can be obtained only by neutral lead stearate combined with aluminum mono- or distearate in no more than

Card 2/3

ACCESSION NR: AP4037174

20-30 mol.% concentration. Lithium, lead and aluminum stearates crystallized separately from melts as eutectic mixtures. Orig. art. has: 3 tables and figures.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti in. I. M. Gubkina (Moscow Institute of Petrochemical and Gas Industry)

SUBMITTED: 02Nov62

ENCL: 00

SUB CODE: FP

NO REF SOV: 007

OTHER: 007

Card 3/3

L 42141-65 ENT(m)/EPF(c)/T Pr-4 DJ

15/0065/65/021/002/0264/0269

ACCESSION NR: AP5006904

AUTHORS: Sinitayn, V. V.; Ishchuk, Yu. L.; Kartalin, B. K.

TITLE: Effect of the degree of saturation of the fatty acid radical on the structure of hydrated Ca-soap in greases

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B

SOURCE: Kolloidnyy zhurnal, v. 27, no. 2, 1965, 264-268

TOPIC TAGS: saturated hydrocarbon, soap, grease

ABSTRACT: The effect of degree of saturation of the fatty acid radical on the structure of hydrated Ca-soap in greases was investigated. In order to study the effect of unsaturation of the fatty acid radical on the size and form of the soap fibers, two series of greases were prepared: the first from pure stearin and olein acids and their mixtures, and the second based on hydrogenated fat, cottonseed oil, and mixtures of the two. It was found that the degree of saturation of the fatty acid radical has a marked influence on the structure of Ca-soaps in greases. Intertwined fibers in the structure of hydrated Ca-greases can be obtained only for a given ratio of saturated to unsaturated acids in the saponified fat. When the relative proportion of fatty acids increases to more than 40% or decreases to less than 25%, the shape and size of the Ca-soap fibers in the greases change markedly. The structure of the greases thickened with Ca-soaps is practically unaffected by

Card 1/2

L 42141-65

ACCESSION NR: AP5008904

change in degree of saturation of the fatty acids or by the method of preparing the soaps, if the ratio between saturated and unsaturated acids in the saponified fat is kept constant. With increasing dispersion of the Ca-soap fibers, the ability to thicken increases. Colloidal stability is improved by reduction in size of the Ca-soaps. This also increases the viscosity and yield of the Ca-greases. These relations are in agreement with previously discovered data on Na- and Li-greases. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 22Nov63

ENCL: 00

SUB CODE: 00, FF

NO REF SOV: 008

OTHER: 002

Card 2/2

LISOVSKIY, A.Ye.; KARTININ, B.N.; GUKHMAN, L.A.; CHERNOZHUKOV, N.I.

Mechanism of the action of tars on the crystallization of paraffins.
Izv. vys. ucheb. zav.; neft' i gaz 8 no.6:57-61 '65. (MIRA 18:7)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova i
Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im akademika I.M.Gubkina.

OLAZOV, G.I.; KARTININ, B.N.; CHERNOZHUKOV, N.I.

Structure of the solid hydrocarbons of distillation raffinates.
Khim. i tekhn. topl. i masel 10 no.10:18-23 O '65.

(MIRA 18:10)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut
neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina.

L 29708-66 EWT(m)/T DJ

ACC NR: AP6015115

(A)

SOURCE CODE: UR/0065/66/000/005/0026/0030

AUTHOR: Fuks, I. G.; Vaynshtok, V. V.; Kartinin, B. N.; Chernozhukov, N. I.

ORG: MINKh and GP

TITLE: Effect of surface active agents on the structure and strength characteristics of lithium lubricants with fillers ||

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 5, 1966, 26-30

TOPIC TAGS: lubricant surface active agent, alkali metal lubricant, lithium compound, shear stress

ABSTRACT: The effect of stearic acid and glycerin admixtures on the structure and properties of lithium lubricants prepared with S-220 oil^{||} with and without fillers (mica and graphite in amounts of 5, 15, and 30 wt. %) was studied. The lubricants were prepared by thickening the oil with lithium stearate (20 wt. %). The dependence of the limit shear stress of the lubricants containing fillers on the concentration of the surfactants (stearic acid, glycerin, and water) has an extremal character: minimum limit shear stress values correspond to surfactant concentrations of

Card 1/2

UDC: 621.892.8

L 29708-66

ACC NR: AP6015115

up to 0.2% while maximum values correspond to higher concentrations. Critical concentrations of surfactants in the lubricants correspond to sharp differences in their structure. The presence of fillers enhances the effect of surfactants on the strength characteristics and causes the difference in the maximum values of the limit shear stress to increase (particularly when the concentration of fillers is raised). Glycerin and stearic acid considerably increase the thickening effect of lithium stearate in castor oil. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 011/ OTH REF: 000

Card 2/2 CU

KARTIN, Peter

Polyneuritis caused by poisoning. Zdrav. vest., Ljubljana 24 no.
1-2:20-24 1955.

1. Nevroloska klinika medicinske visoke šole v Ljubljani--
predstojnik prof. dr. Ivan Marincic.

(POLYNEURITIS, etiol. & pathogen.

arsenic, lead & thallium pois., clin. aspects & ther. (S1))

(ARSENICALS, pois.

causing polyneuritis, clin. aspects & ther. (S1))

(LEAD POISONING,

occup., causing polyneuritis, clin. aspects & ther. (S1))

(OCCUPATIONAL DISEASES,

lead pois., causing polyneuritis, clin. aspects & ther. (S1))

(THALLIUM, pois.

causing polyneuritis, clin. aspects & ther. (S1))

(POISONING,

arsenic, lead & thallium, pois., causing polyneuritis,

clin. aspects & ther. (S1))

KARTIN, Peter

Two cases of reversible atonic ileus in diseases of the central nervous system. Zdrav. vest., Ljubljana 24 no.9-10:352-354 1955.

1. Nevroloska klinika medicinske fakultete v Ljubljani -
predstojnik Prof. dr. I. Marincic.

(INTESTINAL OBSTRUCTION, etiol. & pathogen.
central NS dis., case reports (S1))

(CENTRAL NERVOUS SYSTEM, dis.
causing atonic reversible intestinal obstruct. (S1))

KARTMAN, M. K.

USSR/Medicine - Meninges, Tuberculosis
Medicine - Streptomycin

May 1947

"An Experiment in Tuberculous Meningitis Treatment With Streptomycin," S. G.
Dulitzkiy, R. M. Gotsman, M. K. Kartman, R. A. Fridman, 4 pp

"Byul Eksp Biol i Med" Vol XXIII, No 6

Discussion, with results, of treatment by suboccipital injection of streptomycin, which was found to cause a change in the usual course of the disease, with an effect upon the meningeal symptoms. However, the cerebrospinal fluid remained pathological.

PA 14T8

KARTMAN, L. K.

USSR/Medicine - Streptomycin

Sep/Oct 48

Medicine - Tuberculous Meningitis, Therapy

"Test of the Treatment of Tuberculous Meningitis by the Suboccipital Introduction of Streptomycin," S. O. Dulitskiy, R. M. Gotsman, M. K. Hartman, R. A. Fridman, F. I. Ur'yeva, Clinic of Hosp Pediatrics, Children's Hosp imeni Filatov, Chair of Physiol, Second Moscow Med Inst imeni I. V. Stalin, 6 pp

"Pediatriya" No 5

Subject treatment proposed by Acad L. S. Shtern led in many cases to complete clinical recovery. Streptomycin treatment should be continued for a long time, until complete disappearance of meningeal syndrome and cerebrospinal fluid reaction. No lasting complications were observed in cases treated. Treatment was unsuccessful in small children.

PA 34/49T60

VASYUTINSKIY, B.M.; KOGAN, V.S.; KARTMAZOV, G.N.; YAKIMENKO, L.F.,
diplomnitsa

Constitutional diagram of the nickel - chromium system. Fiz.
met. i metalloved. 9 no. 4:558-563 Ap '60. (MIRA 14:5)

1. Fiziko-tekhnicheskiy institut AN USSR.
(Phase rule and equilibrium)
(Nickel-chromium alloys--Metallography)

S/126/61/012/005/023/028
EO40/E435

AUTHORS: Vasyutinskiy, B.M., Kartmazov, G.N., Finkel', V.A.

TITLE: The structure of chromium in the temperature range of
700 - 1700°C

PERIODICAL: Fizika metallov i metallovedeniye, v.12, no.5, 1961,
771-773

TEXT: Previous investigations of the crystalline structure of Ni-Cr alloys in the temperature range of 1840 to 1930°C indicated the presence of a cubic, face-centred β -phase of chromium and the possibility was suggested that chromium exists in five allotropic modifications. To verify these assumptions, a study was made of the crystalline structure of 80 x 10 x 2 mm chromium specimens with a purity of 99.94%. The examination was made in a high-temperature X-ray camera, which was first evacuated to 10^{-4} mm Hg and then filled in with argon to the pressure of 300 mm Hg. The specimen was heated by passing through it electric current (up to 600 A). The examination was made in Cr anticathode radiation at a specimen-film distance of 60 mm, which ensured good resolution of the α -doublet and enabled an accurate determination of the lattice parameter. The experimental Card 1/4 2 ✓

The structure of chromium ...

S/126/61/012/005/023/028
E040/E435

set-up was designed to facilitate reflection from the (211) plane of the body-centred chromium in the whole interval of the test temperatures. The experimental results are shown in Fig.1 and 2. The results shown in Fig.1 indicate the absence of any polymorphic transformations in pure chromium within the temperature range investigated. There are 2 figures and 14 references:

11 Soviet-bloc and 3 non-Soviet-bloc. The three references to English language publications read as follows:

Ref.1: Bloom D.S., Grant N.J. J. Metals, v.3 (11), 1951, 1009;

Ref.2: Abrahamson E., Grant N.J. J. Metals, v.8, 1956, 975;

Ref.3: Stein C., Grant N.J. J. Metals, v.7, 1955, 127.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR
(Physicotechnical Institute AS UkrSSR)

SUBMITTED: April 19, 1961

Card 2/4 2

KARTMAZOV, G.M.

S/185/62/007/006/010/014
D407/D301

AUTHORS: Vasyutyns'kyi, B. M., Kartmazov, H. M. and Finkel',
V.O.

TITLE: X-ray investigations of the structure of tantalum up
to 2700°C

PERIODICAL: Ukrayins'kyi fizychnyy zhurnal, v. 7, no. 6, 1962,
661-662

TEXT: In the present investigation, the temperature range is extended beyond 2200°C. The specimens were made of tantalum wool, 0.3 mm thick. The metal was annealed in a vacuum at 2200°C so as to remove gaseous impurities. The X-ray analysis was carried out in a high-temperature X-ray chamber in a vacuum of $1-3 \cdot 10^{-4}$ mm Hg. The specimens were heated by an electric current. Only the tantalum line was observed over the entire temperature range; the parameters of the body-centered cubic lattice vary smoothly with temperature. This indicates the absence of phase transitions in tantalum. The temperature dependence of the lattice parameters of tantalum

Card 1/2

X-ray investigations ...

S/185/62/007/006/010/014
D407/D301

can be expressed by the empirical formula

$$a_{T0C} = (3.3017 + 1.4142 \cdot 10^{-5}T + 0.8660 \cdot 10^{-8}T^2)kX.$$

The coefficient of linear expansion was calculated by an approximate formula. The temperature dependence of the coefficient of linear expansion is shown in a figure. At temperatures above 2000°C the lattice parameter varies almost linearly with temperature, whereas the coefficient of linear expansion remains practically unchanged. There are 2 figures. The most important English-language reference reads as follows: J. W. Edwards, R. Speiser, H. L. Johnson, J. Appl. Phys., 22, 424, 1951.

ASSOCIATION: Fizyko-tekhnichnyy instytut AN UkrRSR, Kharkiv (Physicotechnical Institute of the AS UkrRSR, Kharkiv)

SUBMITTED: February 1, 1962

Card 2/2

S/126/62/013/002/017/019
E039/E135

18.11.35
AUTHORS: Vasyutinskiy, B.M., Kogan, V.S., Kartmazov, G.N.,
and Yakimenko, L.F.

TITLE: The formation of textured layers of nitride on
chromium obtained by condensation in vacuum from
the vapour phase

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.2, 1962,
310-311

TEXT: It is shown that the skin formed on the surface of
chromium when heated in air or oxygen consists of two layers;
an external layer of rhombic Cr_2O_3 and an internal layer of
hexagonal Cr_2N . This was discovered by means of X-ray diffraction
measurements. The structure of the skin formed on chromium when
heated in air and in nitrogen up to 1300°C was examined for two
different samples: one was chromium cast and rolled in vacuum,
and the other a sample of chromium obtained by condensation from
the vapour phase. This condensation was carried out at a
pressure of 10^{-3} mm Hg on to a molybdenum plate over a period of
Card 1/2

The formation of textured layers ... S/126/62/013/002/017/019
E039/E135

10-15 hours forming a layer 300-500 μ thick. This layer was then annealed in air for 450 hours. The skin formed was studied by means of X-ray diffraction using K_{α} -Cr radiation to improve definition. Maximum reflection from the (110) plane was obtained with the sample placed at 56° to the incident beam, indicating that the nitride is orientated with the (110) plane parallel to the surface. In the case of chromium cast and rolled in a vacuum at a temperature of 1100 $^{\circ}\text{C}$ no structure corresponding to the nitride layer was discovered; similarly, chromium cast and rolled in air and in nitrogen at a temperature of 900-1200 $^{\circ}\text{C}$ showed no structure. It is observed that the structured layer of nitride on the chromium condensed from the vapour phase is much more firmly bonded to the outer oxide layer than in the case of the structureless nitride on cast chromium from which the oxide layer is easily separated.

ASSOCIATION: Fiziko-tehnicheskii institut AN UkrSSR
(Physicotechnical Institute, AS UkrSSR)

SUBMITTED: May 22, 1961

Card 2/2

VASYUTINSKIY, B.M.; KARTMAZOV, G.N.; FINKEL', V.A.

Obtaining filiform crystals of chromium. Fiz.met.i metalloved.
14 no.5:792-793 N '62. (MIRA 15:12)

1. Fiziko-tehnicheskiiy institut AN UkrSSR.
(Chromium) (Crystallization)

VASYUTINSKIY, B.M.; KARTMAZOV, G.N.

Mechanism of nickel oxidation. *Fiz.met.* 1 metalloved. 15 no.1:
132-134 Ja '63. (MIRA 16:2)

1. Fiziko-tekhnicheskii institut AN UkrSSR.
(Nickel) (Oxidation)

KARTMAZOV, G. N.

AID Nr. 983-1 5 June

STRUCTURE OF TANTALUM AT HIGH TEMPERATURES (USSR)

Amonenko, V. M., B. M. Vasyntinskiy, G. N. Kartmazov, Yu. N. Smirnov,
and V. A. Finkel'. Fizika metallov i metallovedeniye, v. 15, no. 3,
Mar 1963, 444-449. S/126/63/015/003/016/025

The Physicotechnical Institute, Academy of Sciences USSR, has studied the structure of Ta at 20 to 2600°C and the effect of vacuum heat treatment on the structure and properties. X-ray diffraction patterns obtained with a high-temperature x-ray camera in a vacuum of $3 \cdot 10^{-5}$ mm Hg showed that the body-centered cubic structure of Ta remains unchanged at all temperatures tested. The lattice parameter "a" increases from 3.3030 kX at 20°C to 3.3750 kX at 2600°C. The coefficient of thermal expansion was calculated from "a." Annealing in a vacuum of $3 \cdot 10^{-5}$ to $1 \cdot 10^{-3}$ mm Hg at temperatures up to 2200°C was found to increase "a" and microhardness. Curves of these two parameters versus temperature show maxima under all conditions tested; their magnitude increases with increasing pressure. With a constant annealing

Card 1/2

AID Nr. 983-1 5 June

STRUCTURE OF TANTALUM [Cont'd]

S/126/63/015/003/016/025

time of 10 min these maxima occur at 1600° to 1800°C under all pressures tested. With prolonged annealing the maxima are shifted toward lower temperatures, occurring at ~1500-1600°C with annealing for 6 hrs. Both phenomena are attributed to gas absorption by the Ta. X-ray diffraction patterns of a specimen annealed for 15 hrs showed the lines of two high-temperature modifications of Ta₂O₅ at 1460 to 1490°C and 1500 to 1540°C, [ND]

Card 2/2

L 17700-65 ENT(m)/ENP(w)/ENA(d)/ENP(t)/ENP(b) JJP(c)/ASD(m)-3 JD/JO

ACCESSION NR: AP4042048

S/0126/64/017/006/0892/0897

AUTHOR: Vasyutinskiy, B. M.; Kartmazov, G. N.; Papirov, I. I.

TITLE: Surface structure and properties of acicular crystals of chromium

SOURCE: Fizika metallov i metallovadeniya, v. 17, no. 6, 1964, 892-897

TOPIC TAGS: acicular crystal, whisker surface structure, chromium strength, growth mechanism, chromium

ABSTRACT: Pointing out that the formation and growth of acicular crystals is far more complex than indicated by earlier investigators, the authors discuss surface structure, strength characteristics, and growth mechanism of Cr crystals with a maximum cross section of $20 \times 10^{-6} \text{ mm}^2$ produced by vacuum condensation. Examination under a standard optical microscope showed that crystals grow in steps; the mean height of individual steps varied from 1700 to 2300 Å. The growth begins at the basal face and proceeds toward the apex. Under

Card 1/3

L 17700-65

ACCESSION NR: AP4042048

an electron microscope stepped and complex profiles as well as smooth surface regions were also identified. Failure in tensile tests occurred by a cleavage and was not preceded by conspicuous plastic deformation. Investigations showed that the thicker crystals had a lower strength. The strength reached 590 kg/mm^2 in crystals with macroscopic growth steps. Since appreciable strength was observed in crystals both with a smooth surface and with growth steps, the authors assume that the latter are not formed as a result of dislocation. The discontinuation of axial growth is attributed to the mechanism of the development of steps on the lateral face. Apparently, with each new layer that forms at the basal face and reaches the apex, the supply of crystallizing substance to the mobile whisker end is reduced by the diffusion of particles toward the step of the next layer. This was corroborated by the fact that thin crystals possess a smaller number of growth steps than thick specimens formed under analogous conditions. Moreover, the same crystal may be rather smooth near the apex and rough in the thicker portion. The changes in the axial growth under conditions of temperature control were caused by the changes in the growth mechanism. The contribution of A. A. Chernov is gratefully acknowledged. Orig. art. has: 4 figures, 2 formulas, and 1 table.

Card 2/3

L 17700-65

ACCESSION NR: AP4042048

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR (Physicotechnical
Institute, AN UkrSSR)

SUBMITTED: 03Jul63

ENCL: 00

SUB CODE: SS, IC

NO REF SOV: 005

OTHER: 010

Card 3/3

L 58872-65 EPF(c)/EPF(n)-2/EPR/ENG(j)/EPA(w)-2/EWT(1)/EWT(m)/EWP(b)/EPA(sp)-2/
EWP(t) Pr-4/Ps-4/Pu-4/Peb IJP(c) AT/JD/JG

ACCESSION NR: AP5017281

UR/0181/65/007/007/1944/1951

AUTHOR: Shvachko, V. I.; Nadykto, B. T.; Fogel', Ya. M.; Vasyutinskiy, B. M.;
Kartmazov, G. N.

TITLE: Using secondary ion-ionic emission for studying the interaction of oxygen
with the surface of niobium

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 1944-1951

TOPIC TAGS: ion emission, niobium, oxidation

ABSTRACT: The method of secondary ion-ionic emission was used to investigate the composition of oxides which form on the surface of niobium when it interacts with oxygen. It was established that in the temperature range from 20 to 1200°C the following oxides form on the surface of niobium which is in an oxygen atmosphere at a pressure of approximately 10^{-4} mm of mercury: NbO, NbO₂, Nb₂O₃, and Nb₂O₅. In the temperature interval from 1200 to 2000°C the surface of Nb contains only NbO and Nb₂O₃. The corrosion wear of Nb results from the formation and subsequent evaporation of NbO starts at 1400°C and then increases very rapidly with temperature. In the 20-800°C temperature range NbO₂ undergoes decomposition according to the reaction NbO₂ → NbO + O with the desorption of oxygen into a gaseous phase. "In conclu-

Card 1/2

L 58872-65

ACCESSION NR: AP5017281

sion, we are sincerely grateful to A. K. Val'ter for his constant interest in the work." Orig. art. has: 4 figures. 2

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo (Kharkov State University)

SUBMITTED: 27Nov64

ENCL: 00

SUB CODE: GC,MM

NO REF SOV: 003

OTHER: 001

Card 2/2 *typ*

L. 28408-66 EWT(m)/EPF(n)-2/EMP(t)/ETI IJP(c) JD/AM/JG/GD

ACC NR: AT5027942

SOURCE CODE: UR/0000/65/000/000/0077/0082

AUTHOR: Ivanov, V. Ye.; Nechiporenko, Ye. P. (Dr. of Technical Sciences); Osipov, A. D.; Vasyutinakiy, B. M.; Kartmazov, G. N.

71
B+1

ORG: none

TITLE: Thermal stresses in chromium coatings on molybdenum 27

SOURCE: Seminar po zharostoykim pokrytiyam. Leningrad, 1964. Zharostoykiye pokrytiya (Heat-resistant coatings); trudy seminar. Leningrad, Izd-vo Nauka. 1965, 77-82

TOPIC TAGS: chromium plating, vapor plating, molybdenum, heat effect, internal stress, adhesion, thermal stress

ABSTRACT: Previous studies (FMM, IX, 4, 558, 1960) showed that coatings obtained by the condensation in vacuum of Cr vapors on the surface of Mo samples had good protective properties, but that their service life decreased considerably when they were subjected to temperature fluctuations. A study was made on the effect of temperature on internal stresses in chromium coatings on molybdenum produced

Card 1/3

L 28408-66

ACC NR: AT5027942

in various vacuum conditions and having various strengths of adhesion of the coating to the substrate. The value of stress (σ) was determined from changes in the deflection (d) of the plated samples (100 x 5 x 2mm) by using the formula $\sigma = 4 E h_2^3 d / 3 l^2 h_1 (h_1 + h_2)$, where E is the Young modulus, l is the length of the coated part of the sample, and h_1 and h_2 are the thicknesses of the coating and the base metal, respectively. The curves of deflection (in mm) vs temperature were plotted during the experiments. The changes in the slope of the curves (inflections), corresponding to the conversion of elastic into nonelastic deformations, were observed during heating and cooling of the samples. Nonelastic deformations in the low-temperature range ($\leq 400^\circ\text{C}$) were formed at the critical stress $\sigma = 8 \text{ kg} / \text{mm}^2$. The value of the critical stress could be controlled either by the deformation of the coating itself or by the strength of adhesion of the coating to the substrate. Experiments with the coatings of various degrees of adhesion strength (strength of adhesion was changed by applying the coatings to the surface of Mo oxidized to various degrees, or by increasing the roughness of the Mo surface) proved that the value of the critical stress did not depend on the adhesion strength and was controlled by the deformation of the coating itself. The adhesion strength of coatings applied to the surfaces of oxidized

Card 2/3

L 28408-66

ACC NR: AT5027942

and nonoxidized Mo were about the same and were similar to the strength of the coating. The curves plotted for the temperature range of 100 - 1000C for the coatings applied under various values of vacuum (10^{-3} - 10^{-5} mm Hg) showed that the samples produced in 10^{-3} vacuum failed at smaller σ than the samples coated in the higher vacuum. Orig. art. has: 4 fig.

SUB CODE: 20/ SUBM DATE: 20Jul65/ ORIG REF: 003

Card 3/3 IC

L 10444-67 EWT(m)/EWP(t)/ETI IJP(c) JE/JQ
 ACC NR AP6023705 SOURCE CODE: UR/0126/66/021/004/0620/0621 53
 AUTHORS: Vasyutinskiy, B. M.; Kartmazov, G. N.; Smirnov, Yu. N.; Finkel', V. A.
 ORG: Physico-Technical Institute, AN UkrSSR (Fiziko-tekhnicheskiy institut AN UkrSSR)
 TITLE: Investigation of the crystalline structure of niobium and vanadium at high
temperatures 16 27 17
 SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 4, 1966, 620-621
 TOPIC TAGS: niobium, vanadium, x ray spectroscopy, crystal lattice parameter
 ABSTRACT: The crystal structure of niobium and vanadium was determined as a function
 of the temperature. The experimental procedure was described earlier by V. M. Amonenko,
 B. M. Vasyutinskiy, G. N. Kartmazov, Yu. N. Smirnov, and V. A. Finkel' (FMM, 1963, 15, 444).
 The experimental results are presented graphically (see Fig. 1). It was found that the
 temperature dependence of the lattice parameters obeyed the following relationship

$$a_{Nb} = 3.3001 (1 + 7.223 \cdot 10^{-6} T - 7.867 \cdot 10^{-10} T^2) \text{ \AA}$$

$$a_{V} = 3.0296 (1 + 7.314 \cdot 10^{-6} T + 2.944 \cdot 10^{-10} T^2) \text{ \AA}$$

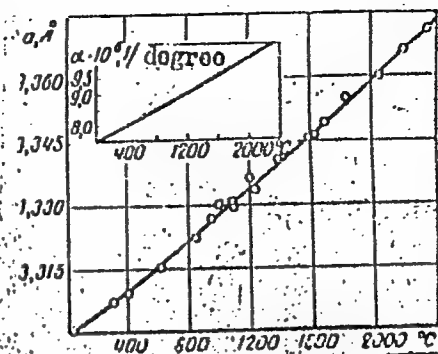
Card 1/2

UDC: 548.0:546.881/882

L 10444-67

ACC NR: AP6023705

Fig. 1. Temperature dependence of the lattice parameter and coefficient of linear expansion of niobium crystal lattice



Orig. art. has: 2 graphs and 2 equations.

SUB CODE: 11/ SUBM DATE: 02Aug65/ ORIG REF: 001/ OTH REF: 004

Card 2/2 ^{67p}

GREKHOV, N.T., inzh.; PISTSOV, Yu.N., inzh.; ZERNITSKIY, V.G., inzh.;
KARTOKHIN, I.I.

Raising heat loads during the combustion of low-grade fuels.
Obog. i brik.vgl. no.28:58-68 '62. (MIRA 17:4)

L 17415-66 EWT(m)/EWA(d)/EWP(t) JD/HW

ACCESSION NR: AP5013676

SOURCE CODE: UR/0182/65/000/005/0001/0005

AUTHOR: Polukhin, P.I.; Teterin, P.K.; Luk'yanov, V.P.; Vorontsov, V.K.;
Kartoshkin, A.A.

ORG: none

TITLE: Stress deformation state in rolling circular blanks

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 5, 1965, 1-5

TOPIC TAGS: stress analysis, strain, material deformation, circular forging,
circular blank, blank, reduction, tensile stress, applied load, load, mandrel
diameter effect, ram form effect, reduction degree effect

ABSTRACT: This study was carried out because there is an increasing need of cir-
cular forgings from difficultly deforming stainless and heat resistant, steels
and alloys. The stress deformation state of the metal in the area of deformation
during the rolling of the circular blanks on a mandrel was investigated with re-
spect to the form of the working surface of the ram (plane, concave, and convex),
diameter of the mendrel, and degree of reduction. The experimental results show

Card 1/2.

L 17415-66

ACCESSION NR: AP5013676

that 1) the process of reduction of circular blanks on a mandrel is accompanied by the occurrence of tensile stress in the deformation area perpendicular to the applied load, 2) the tensile stress and the zone it affects in the deformation area markedly decrease with increase in the degree of reduction, and 3) an increase in the mandrel diameter and application of a concave ram tends to decrease the area of action of the tensile stress as well as of its absolute value. Orig. art. has: 4 formulas, 5 figures, and 3 tables.

SUB CODE: 13,11

SUBM DATE: 00

ORIG REF: 004

OTH REF: 000

Card 2/2 nst

SOV/124-58-8-9095

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 112 (USSR)

AUTHOR: Kartoshkin, L.I.

TITLE: On the Free Shearing Vibrations of a Stepped-section Cantilever Beam (O svobodnykh kolebaniyakh sdviga konsol'nogo sterzhnya stupenchatogo secheniya)

PERIODICAL: Dokl. AN UzSSR, 1957, Nr 3, pp 9-14

ABSTRACT: The differential equations for the free shearing vibrations of a beam are solved by using the Fourier method to separate the variables.

Ye.I. Buzin

Card 1/1

10.9110 also 1103, 1327

22328
S/167/61/000/001/002/004
A104/A133

AUTHOR: Kartoshkin, L. I.

TITLE: Shear oscillations of some stepped rods

PERIODICAL: Izvestiya Akademii nauk UzSSR. Seriya tekhnicheskikh nauk, no. 1, 1961, 51 - 57

TEXT: The author reviewing the effect of the dynamic load on structures, investigates the transverse shear oscillations of two step cantilever rods with a varying reduced elasticity module and volumetric weight, caused by instantaneous finite value pulses. In the case of nonhomogenous individual structural elements the reduced volumetric weight is determined by

$$\gamma_{\text{red}}(x) = \frac{\sum \gamma_i(x) F_i(x)}{F(x)} \quad (1)$$

where γ_{red} = reduced volumetric weight, γ_i = volumetric weight of the individual structural element, F_i = cross-sectional area of the individual element, and F = operational area of the cross section. [Abstracter's note: subscript red (reduced) is a translation of the original η_p (privedenny)] The linear mass is

Card 1/9-7

22328

S/167/61/000/001/002/004
A104/A133

X

Shear oscillations of...

$$m(x) = \frac{\gamma_{red}(x) F(x)}{g}$$

A constant section rod consisting of two sectors of different materials is treated in the same way as a uniform stepped rod, by adjusting the cross-section area of the lower F_1 to the section area of the upper F_2 , and results in

$$k^* = \left(\frac{F_1}{F_2} \right)^* = \frac{G_2}{G_1}$$

Thus the modulus of rigidity of one area is expressed by the modulus of the other area, i.e. $G_2 = k^* G_1$ (2) where G_1 and G_2 are reduced moduli of rigidity of the corresponding lower and upper sections. In case of a stepped rod of different materials the rated correlation of the cross sections is expressed by

$$k_d = \left(\frac{F_1}{F_2} \right)_d = k k^* \quad (3)$$

where k = given cross section ratio of the rod sections. [Abstracter's note: subscript d (different) is a translation of the original p (raznoye)] The derivation of the integral equation on transverse shear oscillations of the nonhomogenous

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variable section of the rod is based on the law momentum change. As ρ and F change only during the transition from one sector to another the integral equation is

$$\int_Z F_{1(2)} \left(\frac{\partial u}{\partial t} dx + a_{1(2)}^2 \frac{\partial u}{\partial x} dt \right) = 0, \quad (6) \quad \text{where } a_1 = \sqrt{\frac{E \cdot G}{\gamma_1}} \text{ and } a_2 = \sqrt{\frac{E \cdot G}{\gamma_2}} =$$

= propagation velocity of the shearing waves, constant in the lower and the upper sector of the rod. For integration along the closed contour Z or the plane (x, t) the positive and negative characteristics passing along the plane, corresponding to the lower sector of the rod, are determined by

$$\frac{dx}{dt} = \pm a_1 \text{ and expressed by } \frac{\partial u}{\partial t} dx + a_1^2 \frac{\partial u}{\partial x} dt = \pm a_1 du, \quad (7)$$

and in respect of the upper sector by $\frac{dx}{dt} = \pm a_2$ expressed by

$$\frac{\partial u}{\partial t} dx + a_2^2 \frac{\partial u}{\partial x} dt = \pm a_2 du, \quad (8)$$

coordinates of plane point (x, t) corresponding to the lower sector are determined by

$$t - a_1 \tau = x - a_1 t,$$

$$t + a_1 \tau = x + a_1 t,$$

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and those of the upper sector by $\xi - a_2 t = x - a_2 t,$

$$\xi + a_2 t = x + a_2 t.$$

The ratio of linear masses constant within the limits of each sector is $\frac{m_1}{m_2} = \frac{\gamma_1 F_1}{\gamma_2 F_2} = d$

and therefore $\frac{F_1}{F_2} = d \frac{\gamma_2}{\gamma_1} = k, \quad \gamma_2 = \frac{k}{d} \gamma_1$

In case of rod sectors of different materials k_d (Eq.3) is applied and γ_1 and γ_2 are altered accordingly. The specific example presents the calculation of a rod at $n = \frac{\gamma_2}{\gamma_1} = 1,0$

and the operating plane of the cross section of the lower sector twice the size of the upper sector ($K = 2$), while the uniformly distributed mass on the lower sector is only $d = 1/2$ compared to the upper sector. Analogous examples are frequently found in industrial and housing structures. The shearing functions $u(x, t)$ caused by an instantaneous finite value pulse at point M (x, t) of plane (x, t) are determined as

$$\alpha_1 = \frac{1}{a}, \quad \alpha_2 = \frac{1}{a_2} \quad (\text{Fig. 1a}).$$

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By applying Eqs. (7), (8) and (6) followed by integration along the segments of each contour three further equations are obtained whose joint solution gives

$$u_M = u(x, t) = \frac{1}{5} \frac{S}{a_{1m}} \left[2(4x - l - 2a_2 t) + a_2 t \right]$$

or
$$u = \frac{2}{5} \frac{S}{a_{1m}} \left[2(4x - l - a_1 t) + \frac{1}{2} a_1 t \right] \quad (9)$$

if a_2 is expressed by a_1 . The tangent stress is

$$\tau = \beta G \frac{\partial u}{\partial x} = 3,2 \beta G \frac{S}{a_{1m}} \quad (10)$$

In case of different materials modulus of rigidity G should be substituted by K^*G , (Eq. 2). Eqs. (9) and (10) apply to all points of area I (Fig. 1b). Eq. (6) applied to closed contours of Figure 1c produces

$$u = \frac{2}{5} \frac{S}{a_{1m}} \times \left[x + \frac{3}{2} (l - a_1 t) \right], \quad (11)$$

$$\tau_z = 0,4 \beta G \frac{S}{a_{1m}} \quad (12)$$

in respect of area II. Based on the corresponding closed contours in respect of

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points in areas III, IV, and V (Fig. 1b) and using Eq. (6) and the joint solution of derived equations, the shear oscillation and stresses of other plane points are determined. Figure 2a shows shearing coefficients at assumed n , k and d values divided by

$$\frac{S}{a_1 m} \cdot 1$$

calculated for moments of time

$$0 \leq t \leq \frac{3}{2} \alpha_1 = \frac{3}{4} \alpha_2; \text{ with a range of } t = \frac{1}{4} \alpha_1 = \frac{1}{8} \alpha_2.$$

Epures of tangent stresses divided by $\beta G \frac{S}{a_1 m}$ and appearing within analogous

moments of time are shown in Figure 2b. Figure 3 shows tangent stresses $\tau: \beta G \frac{S}{a m}$ obtained by equations given in Reference 3 (Kartoshkin, L. I., DAN, UzSSR, 1958, 10). These were calculated for time intervals of

$0 \leq t \leq \alpha = \frac{1}{a}$ and ranges of $t = \frac{1}{4} \alpha$ in regard of rods with ratios $n = 1.0$ and $k = 2.0$, i.e. linear mass in proper proportion to the cross-sectional area throughout the entire height of rod, i.e.

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$$\frac{m_1}{F_1} = \frac{m_2}{F_2} = K = d = \text{const.}$$

A comparison of Figures 2b and 3 shows that the difference in the propagation velocity of shear oscillations ($d \neq k$) has a strong effect on the tangent stress coefficient during the transition of the wave from the lower to the upper sector. Thus a 100% decrease of velocity in the upper sector increases the stresses by 2.4 times. At $d > k$ the propagation velocity of waves in the upper section is higher and the angle gradient towards the axis t of the characteristic passing over the corresponding sector is greater. For the rest the solution will be the same as described in this article. There are 3 figures and 3 Soviet-bloc references.

ASSOCIATION: Institut mekhaniki AN UzSSR (Institute of Mechanics of the Academy of Sciences UzSSR)

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J. Drobny a z Rentgenologickeho oddeleni OUNZ v Hodonine, prednosta
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(PANCREAS dis) (CYSTS ther) (DRAINAGE)

SOURCE CODE: UR/0089/66/021/004/0292/0292

ACC NR: AP6034096

(N)

AUTHOR: Kartovitskaya, M. A.; Rubanov, S. M.; Shkombatova, L. S.

ORG: none

TITLE: Efficiency of boration of metal-water shields

SOURCE: Atomnaya energiya, v. 21, no. 4, 1966, 292

TOPIC TAGS: reactor shielding, borate, boron compound, radiation dosimetry

ABSTRACT: This is a summary of paper No. 100/3736, submitted to the editor and filed but not published in full. It deals with the dependence of the weight and dimensional characteristics of iron-water and lead-water shields on the content of boron and on the place where the boron is introduced in the shield. Boration is shown to lead to redistribution of the components of the total dose, but is effective only up to 0.5 wt.% of boron in the case of lead-water shields. The reduction in thickness is on the order of 1 - 3% in the case of lead. The reduction of weight is 1.5 - 2% in the case of lead and can reach 9% in the case of iron. The best effect is shown to be produced when the first shielding layers are borated. In the heterogeneous lead-water shields, boration has little effect, and in iron shields it reduces their weight by 5%. Blocking the iron or lead layers with boron carbide has the same effect as boration of the heavy component.

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UDC: 621.039.58

Card 1/1

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